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RESEARCH ARTICLE

Frequency and type of eyelid neoplasia in Tuzla region, Bosnia and Herzegovina

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ABSTRACT

Introduction: Benign and malignant tumors can arise from each of the eyelid layers. Our aim was to investigate the frequency and distribution of the eyelid tumors in tertiary health institution in Tuzla Region in Bosnia and Herzegovina.

Methods: We analyzed medical records for all the patients treated for eyelid malignancies in University Clinical Center Tuzla, from January 2012 to December 2016. Demographic, clinical and pathological data were collected and analyzed.

Results: A total of 89 patients were treated during the 5 year period. Forty seven of the patients were male (52 %) and 42 (48 %) were female. Patient age ranged from 11 to 92 years, with the mean age of 66.6 years. The most common eyelid malignancy was basal cell carcinoma (80.95%), followed by squamous cell carcinoma (14.29%), merkel cell carcinoma (3.17%) and melanoma (1.59%).

Conclusion: The annual incidence of eyelid tumors in Tuzla region is about 3.73/100 000 population. Majority of the malignant tumors were basal cell carcinoma, while melanoma was the least frequent. Most frequent benign lesions were seborrheic keratosis and benign nevi.

Keywords: eyelid, neoplasia, incidence, Tuzla, Bosnia and Herzegovina

INTRODUCTION

Eyelid skin is not only the thinnest skin of the body but also among the most common sunlight-exposed areas of skins. Apart from subcutaneous fat layer, eyelid contains all other skin structures that can be the origin of various benign or malignant tumors. Eyelid tumors could be cosmetically disturbing to patients as well as diagnostically difficult for family physicians, dermatologists, ophthalmologists and plastic surgeons. Although there are some studies of eyelid tumors in the literature, most of them focused on the relative frequency of benign and malignant eyelid tumors (1-4). In study of Sean P. et al. the most common eyelid malignancy was basal cell carcinoma (71.8%), followed by squamous cell carcinoma (9.7%), melanoma (9.2%), and sebaceous cell carcinoma (7.3%). The most common benign lesions were seborrheic keratosis (19.7%), followed by lipogranuloma (13.7%), intradermal nevus (12.2%), and hidrocystoma (5).

Aim of this study is to investigate the incidence, frequency and distribution of malignant and benign eyelid tumors as well as demographic properties of the treated patients in Tuzla region, Bosnia and Herzegovina.

METHODS

We searched the medical records for patients treated due to eyelid tumors at the University Clinical Center Tuzla, Bosnia and Herzegovina, from January 2012 to December 2016. We recorded the age, sex, tumor size and histopathological diagnosis of the lesions. Clinical staging of the disease was determined by analysis of the clinical and pathological data.

We used descriptive statistics to calculate the arithmetic means, absolute and relative frequencies and incidence.

RESULTS

There were 89 patients treated for eyelid tumors in the 5 year period in Tuzla region, Bosnia and Herzegovina. The mean age of patients treated for an eyelid lesion was 66.6 years. Of the eyelid lesions 71% were malignant and 29% were benign. Two patient were younger than 30 years (age 11 and 14 years), but the majority were older than 50 years. The most common eyelid malignancy was basal cell carcinoma (80.95%), followed by squamous cell carcinoma (14.29%), merkel cell carcinoma (3.17%) and melanoma (1.59%). Gender distribution showed that there were 42 (48%) female and 47 (52%) male patients diagnosed with eyelid carcinomas, yielding in odds ratio 1:1.

The demographic data and clinical features of benign eyelid tumors are shown in Figure 1. In the group of benign lesions, the most common diagnoses were intradermal nevus (19.2%), seborrheic keratosis (19.2%), hydrocistoma (7.7%), and verucca vulgaris (3.8%). The demographic data of malignant eyelid tumors are summarized in Figure 2. In the group of malignant tumors, the most common tumors were basal cell carcinoma (BCC 80.95%), which were predominantly found on the lower eyelids (92.16%) female predominance (51.06%). Squamous carcinoma (SCC) was the second most common eyelid

malignancy (14.29%) and showed a predilection for the lower eyelid involvement and male predominance (55.56%).

The annual crude incidence of the malignant tumors was 3.7/100 000 population.

DISCUSSION

To our knowledge, this is the first study of the frequency and distribution of eyelid lesions in population in Tuzla region (Bosnia and Herzegovina). We saw 89 patients with eyelid tumor in the last five years. This study did not include patients with eyelid tumors who applied to dermatologists and ophthalmologist. However, as the majority of patients with eyelid lesions are treated by plastic surgeon, this study gives a remarkable knowledge about the distributions of eyelid tumors in Tuzla, Bosnia and Herzegovina. Also we emphasize that we reviewed only histopathologically proven cases. Most patients are referred to our clinic due to suspicious lesions that may be malignant or when a major surgical reconstruction is necessary. Hence, this likely explains the over-presentation of malignant cases in our study.

Largest reported study in Europe for the frequencies of eyelid tumors was published in Switzerland (6) with a total of 5504 cases. In their study five most frequent subtypes of eyelid tumors were squamous cell papilloma (26%), seborrheic keratosis, melanocytic nevus (20%), hydrocystoma (8%), and xanthoma/xanthelasma (6%). Also the authors stated that benign tumors represented 84% of the cases. In our study, the most common eyelid malignancy was basal cell carcinoma (80.95%), followed by, squamous cell carcinoma (14.29%), merkel cell carcinoma (3.17%) and melanoma (1.59%). Malignant lesions were observed in 63 patients (71%) while benign lesions were observed only in 26 patients (29%). In various other studies malignancy ranged from 10.8% to 48% (7-9). Possible reason why we have 71% of malignant cases is that the doctors in the primary care have not referred the patients with benign lesions to plastic surgeon rather than to dermatologist or ophthalmic surgeon. In our country there is not known guideline for referring patients from primary to secondary care. This study shows an equal male/female distribution of eyelid tumors. The possible reason for this is the equal exposition to sun.

The sites of cancer on lower and upper lids were analyzed with 80.9 and 19.1%. The lower lid was also the most common site for malignant tumors (90.5%). The mean age in this study is 66.6 years. It is known that BCC progress very slowly and is asymptomatic in the early phase. It is also reported that patients with BCC are aware of the presence of a lesion for an extended period of time before visiting a physician and diagnosis (10,11). Basal cell carcinoma occurs clinically, initially as a red papule that progressively enlarges. Its main feature is the star-shaped edge. Similar to our results, results from other countries show that BCC is the most frequent malignant tumor of the eyelid (12,6).

The authors concede that this study may not represent the entire Bosnia and Herzegovina population and that, without national and state registries, it is nearly impossible to do so. Currently Bosnia and Herzegovina is one of the rare European countries that does not have national registries so it is impossible to know the exact number of eyelid tumors in our country. This study provides an interesting overview of eyelid tumor in the University Clinic Center in Tuzla that is currently covering the biggest canton in Bosnia and Herzegovina.

CONCLUSION

Our study is the first study about eyelid tumors in region of Tuzla, Bosnia and Herzegovina and it shows similar results comparing with countries in a region. The annual incidence of eyelid tumors in Tuzla region is about 3.73/100 000 population. Majority of the malignant tumors were basal cell carcinoma, while melanoma was the least frequent. Most frequent benign lesions were seborrheic keratosis and benign nevi.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

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TABLES

Table 1: Eyelid carcinomas gender distribution for a five-year period (2012-2016) in Tuzla region

Year of operation	Male	Female	Total
2012	10	9	19
2013	9	6	16
2014	12	6	18
2015	9	11	20
2016	7	10	17
Total	47	42	89

Figures

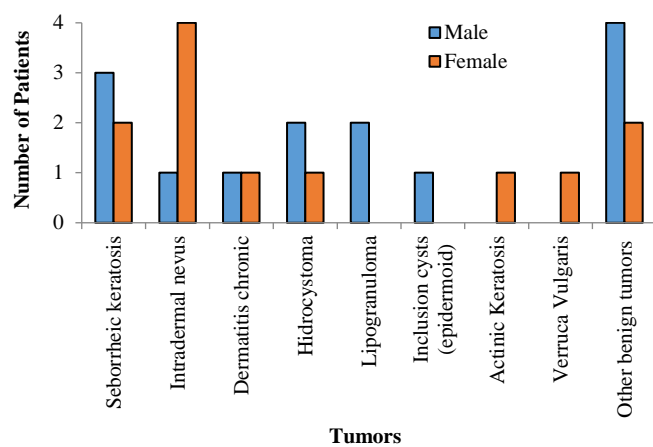


Figure 1. Distributions of benign eyelid tumors in Tuzla region from 2011-2016

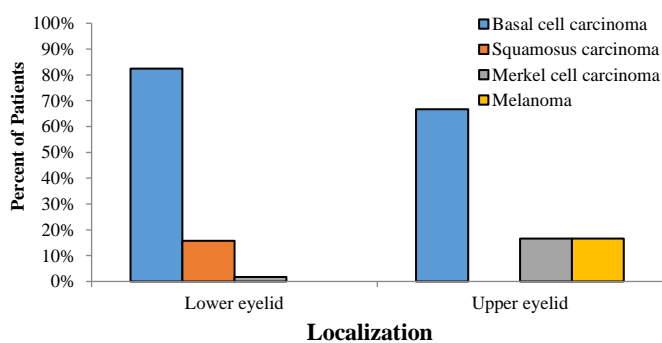


Figure 2. Distributions of malignant eyelid tumors in Tuzla region from 2011-2016